

Durable Silver Mirror Coating Via Ion Assisted, Electron Beam Evaporation For Large Aperture Optics, Phase II

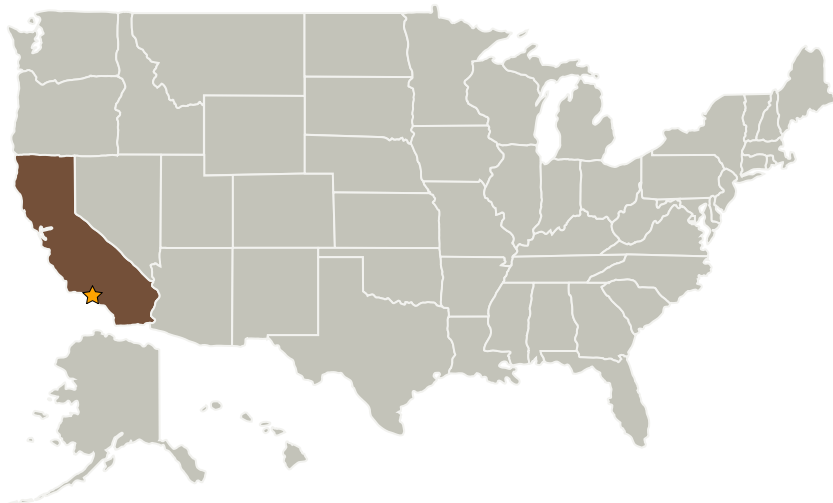
Completed Technology Project (2005 - 2007)



Project Introduction

In the Phase I research, Surface Optics Corporation (SOC) demonstrated a durable silver mirror coating based on an ion assisted, thermal evaporation process. The recipe for this durable silver mirror system was developed by Lawrence Livermore National Laboratory (LLNL) but was based on a reactive sputtering process. In the Phase II research, process scale-up issues will be addressed so that the process may be implemented in SOC's large aperture coating facility. SOC recently developed a novel vacuum coating system that utilizes a translating electron beam evaporation source. This system is capable of producing highly uniform optical films on curved substrates up to 3-meters in diameter. The combination of SOC's novel manufacturing methods and LLNL's coating designs, will establish a unique and very valuable coating resource for the astronomical community.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Jet Propulsion Laboratory (JPL)	Lead Organization	NASA Center	Pasadena, California
Surface Optics Corporation	Supporting Organization	Industry	San Diego, California



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

California

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX14 Thermal Management Systems
 - └ TX14.2 Thermal Control Components and Systems
 - └ TX14.2.8 Measurement and Control